



BCATS

BUILDING, CONSTRUCTION
AND ALLIED TRADE SKILLS

Materials

Teacher/Tutor resource



Unit Standard 24355 (v3), Level 1

Demonstrate knowledge of
construction & manufacturing materials
used in BCATS projects

4 CREDITS

BCITO
buildingpeople

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(BCITO)**

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Teaching and assessment tips

Purpose

This unit standard credits learners who can:

- read or listen to the instructions for the job and work out what they need to do
- choose the right materials for the job and explain why they chose them
- for each of four different materials (timber, plus three others such as manufactured board, metal, plastic, glass, concrete, mechanical fasteners, adhesives, finishing materials, upholstery fabric/leather), explain:

what its purpose is

- its properties – what it looks like, what it's like to work with, how strong and stable it is
- how it compares with another material
- three of its features – for example, design, aesthetics, ergonomics, cost, availability, jointing methods, durability, health and safety requirements.

More information about the unit standard's requirements can be found in the Assessment Schedule at the end of this document.

Assessment

Providing at least one of the materials is timber, you may take a wide view of "materials" when approaching this unit. For example, it is acceptable also that materials such as leather, paua shell and flax may be materials considered.

For this unit we encourage you to use a practical project that your student will then go on to construct. However, this unit does not strictly require that it must be built or constructed.

An Assessment Record sheet is provided for the learner to complete. You must also verify that your learner understood the job specifications and selected appropriate materials from them.

Alternatively, if you are taking a design process (design brief) approach, the design and associated job specifications your student develops may form part of the assessment if it contains consideration of the use of four materials as per the Assessment Record Sheet. If you use this approach, attach the relevant sections to the Assessment Record sheet.

Assessment of this unit standard consists of:

- **completion of the Assessment Record Sheet and/or the student's design and job specifications that includes consideration of four materials consistent with the requirements of the Assessment Record Sheet and**
- **your verification the job specifications were understood and appropriate materials selected.**

Alignment with other unit standards

Developing programmes that integrate teaching and learning helps to provide students with meaningful and manageable learning opportunities. The following unit standards are not an exhaustive list of which you could include in your programme and nor should one feel obligated to offer all as linked units. Other unit standards you include will depend on your overall programme of study and what will best meets your learners' needs.

Level 1

25919 *Use hardware and fastenings for a BCATS project*

US 25919 credits learner who can identify and describe different types of hardware and fastenings and use at least four of them in a BCATS project. Information in the student resource can help to inform material selection for US 24355: mechanical fasteners and adhesives are two of the materials specifically included as examples of three non-timber materials students may select.

25920 *Use joints for a BCATS project*

A minimum of two types of joints need be used to achieve US 25920. Consideration of which materials will be best suited to the type of joints needed for their project is one of the three required explanations for US 24355.

24356 *Apply elementary procedures and processes for a BCATS project*

US 24355 can be good preparation for when students construct the project to which the materials relate. US 24356 requires learners to complete a construction project where the student can establish the job requirements and to safely prepare materials, mark out, shape, and join components, and finish the project. Suitable projects for this unit standard include tables, cabinets, seating, storage chests, shelving units, or projects of similar complexity.

Assessment Schedule

US 24355 (v3) - Demonstrate knowledge of construction and manufacturing materials used in BCATS projects (Level 1, Credit 4)

| Outcome 1 | Establish job requirements and select construction and manufacturing materials for a BCATS project. | Assessment evidence and judgement |
|-----------|--|--|
| PC 1.1 | Job requirements for the project are identified from job specifications. | <p>Assessor observation that:</p> <ul style="list-style-type: none"> instructions for practical project were read and/or listened to job requirements were described. |
| PC 1.2 | Materials are selected in accordance with the project requirements. | <p>Assessor observation and evidence gathered from the Assessment Record Sheet:</p> <ul style="list-style-type: none"> appropriate materials for practical project were selected. |
| Outcome 2 | Describe the properties of selected materials and evaluate their suitability to meet job requirements. Range: <i>four</i> materials, one of which must be a timber. | Assessment evidence and judgement |
| PC 2.1 | The properties of selected materials are described. | <p>Evidence gathered from the Assessment Record Sheet showing:</p> <ul style="list-style-type: none"> appearance, working qualities, strength, and structural stability of <i>four</i> different materials (including timber) selected for practical project are described. |
| PC 2.2 | The purpose of selected materials is described in accordance with project requirements. | <p>Evidence gathered from the Assessment Record Sheet showing:</p> <ul style="list-style-type: none"> description of <i>four</i> different materials (including timber) selected for practical project. |
| PC 2.3 | Factors influencing the selection of materials are described. Range: <i>three</i> of – design, aesthetics, ergonomics, cost, availability, jointing methods, durability, health and safety requirements. | <p>Evidence gathered from Assessment Record Sheet showing:</p> <ul style="list-style-type: none"> reasons for selecting materials (including timber) for practical project are described – reasons must include <i>three</i> of - design, aesthetics, ergonomics, cost, availability, jointing methods, durability, and health and safety requirements. |
| PC 2.4 | The properties and qualities are compared and evaluated between the selected, and alternative, materials. | <p>Evidence gathered from Assessment Record Sheet showing:</p> <ul style="list-style-type: none"> properties and qualities of each of <i>four</i> different materials (including timber) chosen for practical project and an alternative material are compared and evaluated. |
| PC 2.5 | Reasons for choosing the selected materials are described. | <p>Evidence gathered from Assessment Record Sheet showing:</p> <ul style="list-style-type: none"> reasons for choice of <i>four</i> different materials (including timber) for practical project are described. |

